

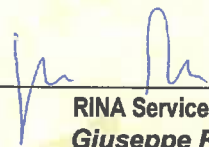


TYPE APPROVAL CERTIFICATE
No. MAC139117XG/001

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Valves
<i>Type</i>	Ball Valves - Series 47
<i>Applicant</i>	HABONIM Industrial Valves & Actuators - HABONIM INDUSTRIAL VALVES & ACTUATORS K FAR HANASSI 1230500, ISRAEL Haifa ISRAEL
<i>Manufacturer</i>	HABONIM Industrial Valves & Actuators - HABONIM INDUSTRIAL VALVES & ACTUATORS K FAR HANASSI 1230500, ISRAEL Haifa ISRAEL
<i>Place of manufacture</i>	HABONIM Industrial Valves & Actuators - HABONIM INDUSTRIAL VALVES & ACTUATORS K FAR HANASSI 1230500, ISRAEL Haifa ISRAEL
<i>Reference standards</i>	Part C, Chapter 1, Appendix 7 (Gas Fuelled Ship) RINA Rules ; Part E Chapter 9 Section 9 (Liquified Gas Carrier) RINA Rules; IGF Code as per IMO MSC.391(95), ; IGC Code as last amended by IMO MSC.377(93); Part C, Chapter 1, Section 10 RINA Rules

Issued in **HAMBURG** on **May 10, 2017**. *This Certificate is valid until* **May 9, 2022**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



TYPE APPROVAL CERTIFICATE

No. **MAC139117XG/001**

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Ball Valves - Series 47

Product Description

The products are three piece ball valves designed and type tested according to ASME B16.34

Reference documents

Assembly Drawings booklet approved with RINA no. HMMC-9098

Valves Catalogue booklet filed with RINA no. HMMC-9100

Operating & Maintenance Instructions booklet filed with RINA no. HMMC-9103

Test Reports booklet filed with RINA no. HMMC-9099

Materials/Components

Valves Body on Stainless steel according to the following ASTM standards:

A351 CF8M/CF3M, A216 WCB, A494 CW-12MW, A494 M-35-1, A351 CN7M, A351 CK3M CuN, A995 CD4MCuN 1B, A995 CD3MWCuN 6A.

For material details reference shall be made to assembly drawings and catalogues above mentioned.

Technical Characteristics

Size DN 6 up to DN 150 (1/4" up to 6")

Minimum/Maximum Working Temperature range -55 °C / +260 °C

Maximum Working Pressure 150 bar

End connections as per assembly drawings and catalogues above mentioned.

Field of Application

The valves can be used in sea water, fresh water, bilge, ballast, steam, gas fuel, fuel oil, lubricating oil, hydraulic oil, compressed air, inert gas, grey water, black water systems.

Acceptance Conditions

For gas fuelled ships the following IGF Code (IMO Resolution MSC.391(95)) and RINA Rules requirements are applicable:

- the valves connection to piping in accordance with 7.3.6.4.1 for direct connections and 7.3.6.4.2 for flanged connections.
- Material testing in accordance with Table 7.4
- Welding procedure tests in accordance with 16.3.4
- Tests on board as per 16.7.3.2 and 16.7.3.5

For liquefied gas carrier the following IGC code (as last amended by IMO Resolution MSC.377(93)) and RINA Rules requirements are applicable:

- The valves connection to piping in accordance with 5.2.10
- Material Testing in accordance with Table 6.4
- Welding procedure tests in accordance with 6.3.5

The valves used for other on board systems shall be certified according to Part C Chapter 1 Section 10 Table 36 of RINA Rules.

The connections shall be in compliance with Part C chapter 1 Section 10 Table 14 & Table 15 of RINA Rules

The material use is subject to requirements indicated in Part C chapter 1 Section 10 Table 4 of RINA Rules.

Remarks

The maximum working pressure is to be reduced as per the Manufacturer's instructions .
Final acceptance of valves is subject to satisfactory outcome of testing as per RINA Rules.

HAMBURG May 10, 2017

